KENTUCKY LABOR CABINET
DEPARTMENT OF WORKPLACE STANDARDS
Ervin Dimeny, Commissioner

INTERIM ORDER
July 7, 2017

Issued to:
Marietta Silos, LLC
2417 Waterford Road
Marietta, Ohio 64120

Jobsite:
Mill Creek Generating Station
2417 Waterford Road
Louisville, KY 40272

INTERIM ORDER

Pursuant to Kentucky Revised Statute 338.153 and Kentucky Administrative Regulation (KAR) 2:170, Kentucky issues this interim order, effective upon receipt, authorizing Marietta Silos, LLC to comply with the following conditions in lieu of complying with paragraph (o)(3) of 29 Code of Federal Regulations (CFR) 1926.452, adopted by 803 KAR 2:411, and paragraphs (c)(1) through (c)(4), (c)(8), (c)(13), (c)(14)(i), and (c)(16) of 29 CFR 1926.552, as adopted by 803 KAR 2:413.

1. Scope

This interim order applies to chimney-related construction, performed at Mill Creek Generating Station, 14660 Dixie Highway, Louisville, and includes work on chimneys, chimney linings, stacks, and chimney-related structures such as silos, towers, and similar structures (hereafter referred to collectively as "chimney-related structure" or "structure") built using jump-form and slip-form construction techniques and procedures, regardless of the structural configuration (such as tapered or straight barreled of any diameter) when such construction involves the use of temporary personnel hoist systems (hereafter referred to as "hoist system") for the transportation of:

(a) Personnel to and from the bottom landing of a chimney or chimney-related structure to working elevations inside or outside of the chimney or structure using a personnel cage during construction work subject to 29 CFR Part 1926, as adopted by the applicable KARs, including construction, renovation, repair, maintenance, inspection, and demolition; or

(b) Materials, but not concurrently with hoisting of personnel, through attachment of a hopper, material basket, concrete bucket, or other appropriate rigging to the hoist system to raise and lower all other materials inside or outside a chimney or chimney-related structure. See also Condition 2(c)(ii) below.

2. Application

(a) The employer must use a hoist system equipped with a dedicated personnel-transport device (i.e., a personnel cage) as specified by this variance to raise or lower its workers and/or other construction-related tools, equipment, and supplies between the bottom landing of a chimney or chimney-related structure and an elevated work location while performing construction inside and outside the chimney or structure.

(b) Prior to initial use of the hoist system, the employer must have all drawings containing designs and construction details showing the integration of the hoist system with the construction technique and procedures in use (such as a slip-form construction) sealed by a professional engineer registered in the United States. A professional engineer registered in the United States also must approve any modifications to these drawings.[1]

(c) When using a hoist system, the employer must:

(i) Use the personnel cages raised and lowered by the hoist system solely to transport workers with the tools and small supplies necessary to do their work (e.g., fasteners, paint, caulk);

(ii) Attach a dedicated material-transport device directly to the hoist rope solely to raise and lower all other materials and tools; and

(iii) Attach the material-transport device directly to the hoisting hook and never to the personnel cage.

(d) Except for the requirements specified by 29 CFR 1926.552(c)(1) through (c)(4), (c)(8), (c)(13), (c)(14)(i), and (c)(16), the employer must comply fully with all other applicable provisions of 29 CFR Parts 1910 and 1926, as adopted by the applicable KARs.

(e) When an employer demonstrates that it is infeasible to comply with these conditions, the employer may use other devices or methods to comply, but only when the employer clearly demonstrates that these devices and methods provide its workers with protection that is at least equivalent to the protection afforded to them by the conditions of this variance.

(f) The employer must convey any communication, written or verbal, required by this variance in a language that each worker can understand.

(g) Replacing a personnel cage with a personnel platform or a boatswain's chair. The following provisions apply.

(i) Personnel platform. Before using a personnel platform, an employer must:

(A) Demonstrate that available space makes it infeasible to use a personnel cage for transporting employees;

(B) Limit use of a personnel platform to elevations above the last work location that the personnel cage can reach; and

(C) Use a personnel platform in accordance with requirements specified by 29 CFR 1926.1431(s), adopted by 803 KAR 2:505, unless the employer can demonstrate that the structural arrangement of the chimney precludes such use.

(ii) Boatswain's chair. Before using a boatswain's chair, an employer must:

(A) Demonstrate that available space makes it infeasible to use a personnel platform for transporting employees;

(B) Limit use of a boatswain's chair to elevations above the last work location that the personnel platform can reach; and

(C) Use a boatswain's chair in accordance with block-and-tackle requirements specified by 29 CFR 1926.452(o)(3), unless the employer can demonstrate that the structural arrangement of the chimney precludes such use.

3. Definitions

The following definitions apply to this interim order; these definitions do not necessarily apply in other contexts.

(a) Authorized person: a person approved or assigned by the employer to perform a specific type of duty or duties or to be at a specific location or locations at the jobsite.[2]

(b) Barricade: barrier used to confine or mark off limits to access.

(c) Base: mounted drum hoist: a drum hoist fastened to, and supported by, a designed steel frame with mounting attachments for securing to a foundation.*

(d) Broken rope principle: the principle by which, if the main support rope fails, the lack of tension will cause the safety clamps attached to the personnel cage to grip the guide ropes and stop it within eighteen (18) inches (457.2mm) (maximum) of travel from the activation point.*

(e) Cage: an enclosed load-carrying unit or car, including its platform, frame, enclosure, and gate, in which personnel are transported.*

(f) Cathead: the structure directly supporting the overhead sheaves.*

(g) Competent person: one who is capable of identifying existing and predictable hazards in the surroundings or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.[3]

(h) Deadman control: a constant pressure, hand-operated or foot-operated control designed so that, when released, it automatically returns to a neutral or deactivated position and stops movement of the hoist drum.* (Referred to in this order as “deadman control switch.”)

(i) Design factor: the ratio of the failure load to the maximum designed working load. (Also referred to as “Safety Factor” or “Factor of Safety.”)* (Referred to in this order as “safety factor.”)

(j) Exclusion zone: a clearly designated zone around the bottom landing of the hoist system designed to restrict the zone to authorized persons only.

(k) Footblock: a wire-rope block mounted at or near the bottom of a structure for the purpose of changing the direction of the hoisting rope from approximately horizontal to approximately vertical.*

(l) Hoist (verb): to raise, lower, or otherwise move a load in the air.

(m) Hoist (noun): same as "hoist machine."

(n) Hoist area: the area (including, but not limited to, the area directly beneath the load) in which it is reasonably foreseeable that partially or completely suspended materials could fall in the event of an accident.

(o) Hoist-way: a clearly designated walkway or path used to provide safe access to and from personnel cages.

(p) Hoist machine: a mechanical device for lifting and lowering loads by winding a line onto or off a drum.

(q) Hoist system: a collection of mechanical devices and support equipment assembled and used in combination for lifting and lowering loads, including personnel cages.

(r) Job hazard analysis: an evaluation of the tasks or operations involving the use of hoist systems performed to identify potential hazards and to determine the necessary controls.

(s) Lifeline: an independently suspended line used for attaching the employee's safety harness lanyard, usually by means of a rope grab, as part of the fall-arrest system.*

(t) Line run: a condition whereby the free end of the hoistline (wire rope) may be overhauled by the deadweight of the downline portion of the hoistline on the footblock side of the cathead.*

(u) Non-guided workman's hoist (worker's hoist): a hoist involving the transportation of a person in a boatswain's chair, or equivalent, not attached to fixed guide ropes.* (Note: While the conditions of this order do not use this term directly, ANSI A10.22-2007, referenced under Condition 11, uses the term.)

(v) Qualified person: one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.[4]

(w) Rope: wire rope, unless otherwise specified.*

(x) Rotation-resistant rope: a wire rope consisting of an inner layer of strand laid in one direction covered by a layer of strand laid in the opposite direction. This has the effect of counteracting torque by reducing the tendency of the finished rope to rotate.*

(y) Safety clamp: a fall-arresting device (or rope-grab) designed to grip the lifeline and prevent the person being transported in a boatswain's chair, or equivalent, from falling.*

(z) Static drop test: a test performed by suspending the personnel cage in a fixed position with a quick-release device or equivalent method separating the cage from the hoistline. The quick-release device is tripped allowing the cage to freefall until the safety clamps (cage) activate and stop the cage.*

(aa) Total suspended load: the combined weight of any and all objects and persons in transport, including the weight of the suspended rope.

(bb) Weatherproof: constructed or protected so that exposure to the weather will not interfere with successful operations.*

4. Qualified Person and Competent Person

(a) The employer must:

(i) Provide one or more competent person(s) and/or qualified person(s), as specified in paragraphs (f) and (m) of 29 CFR 1926.32, adopted by 803 KAR 2:402, who is/are responsible for ensuring the installation, maintenance, and inspection of the hoist system comply with the conditions specified herein, and with the applicable requirements of 29 CFR Part 1926, as adopted by the applicable KARs; and

(ii) Ensure that a competent person(s) is/are present at ground-level to assist in an emergency whenever the hoist system is raising or lowering workers.

(b) The employer must use a qualified person to design, and a competent person to maintain, the cathead described under Condition 9 ("Cathead and Sheave") below.

(c) The employer must train each competent person and each qualified person regarding the conditions of this interim order and the requirements of 29 CFR Part 1926, as adopted by the applicable KARs, that are applicable to their respective roles.

5. Hoist Machine

(a) Type of hoist. The employer must:

(i) Designate the hoist machine as a hoist system; and

(ii) Use and maintain the hoist machine in accordance with the manufacturer's instructions.

When the manufacturer's instructions are not available, the employer must ensure that a qualified person develops written instructions, and that these instructions are available on-site.

(b) Raising or lowering a transport. The employer must ensure that:

(i) The hoist machine includes a base-mounted drum hoist designed to control line-speed;

(ii) When lowering an empty or occupied transport, the drive components are engaged continuously (i.e., "powered down" or not "freewheeling");

(iii) The drive system is interconnected, on a continuous basis, through a torque converter, mechanical coupling, or an equivalent coupling (e.g., electronic controller, fluid clutches, and hydraulic drives);

(iv) The braking mechanism is applied automatically when the transmission is in the neutral position and a forward-reverse coupling or shifting transmission is being used; and

(v) No belts are used between the power source and the winding drum.

(c) Power source. The employer must power the hoist machine by an air, electric, hydraulic, or internal-combustion drive mechanism.

(d) Constant-pressure control switch. The employer must equip the hoist machine with a hand-operated or a foot-operated constant-pressure control switch (i.e., a "deadman control switch") that deactivates the engine and stops the hoist rotation immediately upon release by the hoist operator.

(e) Line-speed indicator. The employer must:

(i) Equip the hoist machine with a line-speed indicator maintained in working order; and

(ii) Ensure that the line-speed indicator is in clear view of the hoist operator during hoisting operations.

(f) Overspeed. The employer must equip the hoist machine with an audible or visual overspeed-indicator alarm that will activate before the line-speed exceeds 275 feet per minute (includes ten (10) percent overspeed allowance) when transporting personnel.

(g) Braking systems. The employer must equip the hoist machine with at least two (2) independent braking systems (i.e., one automatic and one manual) applied on the winding side of the clutch or couplings, with each braking system capable of stopping and holding 150 percent of the maximum rated line load.

(h) Slack-rope protection. The employer must equip the hoist machine with a slack-rope device to prevent rotation of the winding drum under slack-rope conditions, or a slack-rope circuit that stops or limits the hoist speed to a creep speed when there is no tension on the load line.

(i) Frame. The employer must ensure that the frame of the hoist machine is a self-supporting, rigid, steel structure, and that holding brackets for anchor lines and legs for anchor bolts are integral components of the frame in accordance with the applicable design drawings.

(j) Stability. The employer must secure hoist machines in position to prevent movement, shifting, or dislodgement in accordance with the applicable design drawings.

(k) Location. The employer must:

(i) Locate the hoist machine far enough from the footblock to obtain the correct fleet angle for proper winding or spooling of the cable on the drum; and

(ii) Ensure that the fleet angle remains between one-half (½) degree and one and one-half (1 ½) degrees for smooth drums, and between one-half (½) degree and two (2) degrees for grooved drums, with the lead sheave centered on the drum.[5]

(l) Drum and flange diameter. The employer must:

(i) Provide a winding drum for the hoist that is at least thirty (30) times the nominal diameter of the rope used for hoisting; and

(ii) Ensure that the winding drum has a flange diameter that is at least one and one-half (1½) times the winding-drum diameter.

(m) Spooling of the rope. The employer must never spool the rope closer than two (2) inches (5.1 cm) from the outer edge of the winding-drum flange when the hoist is in operation.

(n) Minimum rope turns on drum. The employer must ensure that the drum has three (3) turns of rope when the hoist load is at the lowest point of travel, and that the hoist end of the rope is mechanically secured to the hoist drum in accordance with the manufacturer's instructions.

(o) Electrical system. The employer must ensure that all electrical equipment is weatherproof.

(p) Grounding. The employer must ensure that the hoisting machine is grounded at all times in accordance with the requirements of 29 CFR 1926.404(f), adopted by 803 KAR 2:410.

(q) Limit switches. (i) When the employer uses a hoist system with a personnel cage, the employer must equip the hoist system with limit switches and related equipment that automatically prevent overtravel of the transport device at the top of the supporting structure and at the bottom of the hoist-way or lowest landing level.

(ii) When the employer uses a hoist system with a material-transport device, the employer must equip the hoist system with limit switches and related equipment that automatically prevents overtravel of material-transport devices at the top of the support structure.

(r) Guarding. The employer must guard effectively all exposed moving parts such as gears, projecting screws, setscrews, chains, cables, belts, chain sprockets, and reciprocating or rotating parts, that might constitute a hazard under normal operating conditions. Note: Kentucky considers a hoist drum that has access limited to authorized persons as guarded.

(s) Overhead Protection. The employer must provide a shelter or enclosure to protect the hoist operator, hoist machine, and associated controls from falling or moving objects.

6. Methods of Operation

(a) Worker qualifications and training. The employer must:

(i) Ensure that each personnel hoist operator and each of their supervisors have effective and documented training in the safe operation of hoist machines covered by this variance.

(ii) Ensure that only a trained and authorized person operates the hoist machine.

(iii) Provide effective and documented instruction, before initial use, to each worker who uses a personnel cage for transportation regarding the safe use of the personnel cage and its emergency systems. The employer must repeat the instruction periodically and as necessary (e.g., after making changes to the personnel cage that affect its operation).

(b) Use of job hazard analyses (JHAs). The employer must:

(i) Complete one (1) or more JHAs for the operation of the hoist system; and

(ii) Review, periodically and as necessary (e.g., after making changes to the hoist machine that affect its operation), the contents of the JHA with affected personnel.

(c) Speed limitations. The employer must not operate the hoist at a speed in excess of:

(i) 250 feet per minute[6] or the design speed of the hoist system, whichever is lower, when using a personnel cage to transport workers, and slow the hoist appropriately at the extremes of hoist travel. (Note: The employer may use a line-speed that is consistent with the design limitations of the hoist system when hoisting material (i.e., using a dedicated material-transport device) on the hoist system.); or

(ii) 100 feet per minute when a personnel platform or boatswain's chair is being used to transport workers.

(d) Communication. The employer must:

(i) Use an electronic voice-communication system (such as two-way radio) at all times for communication between the hoist operator and the workers located in a moving personnel cage, personnel platform, or boatswain's chair;

(ii) Stop hoisting if there is (a) a failure of communication, or (b) activation of a stop signal from the workers in the personnel cage, personnel platform, or boatswain's chair; resume hoisting only when a supervisor determines that it is safe to do so.

7. Hoist Rope

(a) Grade. The employer must use a wire rope for the hoist system (i.e., "hoist rope") that consists of extra-improved plow steel, an equivalent grade of non-rotating rope, or a regular lay rope with a suitable swivel mechanism.

(b) Safety factor. For personnel hoisting, the employer must maintain a safety factor of at least eight and nine-tenth (8.9) times the total suspended load throughout the entire length of hoist rope (including the weight of the suspended rope).

(c) Size. The employer must use a hoist rope that is at least one-half (½) inch in diameter.

(d) Rope lay. Except when using rotation-resistant rope, the employer must use preformed regular-lay rope. The direction of exterior lay (right or left) must match the drum termination and winding characteristics.

(e) Inspection, removal, and replacement. The employer must:

(i) Thoroughly inspect the hoist rope before the start of each job, and on completing a new set-up;

(ii) Maintain the proper diameter-to-diameter ratios between the hoist rope and the footblock and the sheave by inspecting the wire rope regularly (see Conditions 8(c) and 9(d), below); and

(iii) Remove and replace the wire rope with new wire rope when any condition specified by 29 CFR 1926.552(a)(3) occurs.

(f) Attachments. The employer must attach the rope to a personnel cage, personnel platform, or boatswain's chair using a positive connection such as:

(i) A screw-pin shackle with the pin secured from rotation or loosening by mousing to the shackle body;

(ii) A bolt-type shackle, nut, and cotter pin; or

(iii) A positive-locking link.

(g) Wire-rope fastenings. When the employer uses clip fastenings (e.g., U-bolt wire-rope clips) with wire ropes, the employer must:

(i) Use Table H-20 of 29 CFR 1926.251, adopted by 803 KAR 2:407, to determine the number and spacing of the clips;

(ii) Use at least three (3) drop-forged clips at each fastening;

(iii) Install the clips with the "U" of the clips on the dead end of the rope and the live end resting in the clip saddle;

(iv) Space the clips so that the distance between them is a minimum of six (6) times the diameter of the rope.

(v) Tighten the clips evenly in accordance with the manufacturer's specification;

(vi) Following initial application of the load to the rope, retighten the clip nuts to the specified torque to compensate for any decrease in rope diameter caused by the load; and

(vii) Retighten the rope clip nuts periodically to compensate for any further decrease in rope diameter during usage.

(h) Rotation-resistant ropes and swivels. The employer must not use a swivel anywhere in the system when using rotation-resistant ropes unless approved by the wire-rope manufacturer.

(i) Rope protection. The employer must:

(i) Barricade the hoisting rope between the hoisting machine and the footblock;

(ii) Protect the hoisting rope from abrasive contact with the ground; and

(iii) When the hoisting rope is subject to falling material or debris, protect it from such hazards.

8. Footblock

(a) Type of footblock. Except as provided in paragraph (d) of this condition, the employer must use a footblock:

(i) Consisting of construction-type rope blocks of solid single-piece bail with a safety factor of at least five (5), or an equivalent block with roller bearings;

(ii) Designed for the applied loading, size, and type of wire rope used for hoisting;

(iii) Designed for returning the rope to the sheave groove after a slack-rope condition, or equipped with a guard that contains the wire rope within the sheave groove;

(iv) Attached to the base according to the design drawings, with the anchorage being capable of sustaining at least eight (8) times the resultant force of the horizontal and vertical loads transmitted by the hoisting rope; and

(v) Designed and installed so that it turns the moving wire rope to and from the horizontal or vertical direction as required by the direction of rope travel.

(b) Directional change. The employer must ensure that the angle of change in the hoist rope from the horizontal to the vertical direction at the footblock is approximately ninety (90) degrees.

(c) Diameter. The employer must ensure that the line diameter of the footblock sheave is at least twenty-four (24) times the diameter of the hoist rope.

(d) Sheave substitute. The employer may substitute a properly mounted sheave, as specified in Condition 9 below ("Cathead and Sheaves"), for the footblock described in this condition.

9. Cathead and Sheaves

(a) Sheave support. The employer must use a cathead (i.e., "overhead support") constructed of steel or aluminum that consists of a wide-flange beam, or two (2) channel sections securely bolted back-to-back, according to the design drawings, to prevent spreading.

(b) Installation. The employer must ensure that:

(i) All sheaves revolve on shafts that rotate on bearings; and

(ii) The bearings are mounted securely to maintain the proper bearing position at all times.

(c) Rope guides. The employer must provide each sheave with appropriate rope guides to prevent the hoist rope from leaving the sheave grooves when the rope vibrates or swings abnormally.

(d) Diameter. The employer must use a sheave with a line diameter that is at least twenty-four (24) times the diameter of the hoist rope.

(e) Design basis. The employer must ensure that:

(i) The design of the cathead assembly conforms to the American Institute of Steel Construction (AISC) *Manual of Steel Construction* or the Aluminum Association's *Aluminum Design Manual*, whichever manual is appropriate to the material used; and

(ii) The cathead has a safety factor of at least five (5) for personnel and material hoisting.

(f) Clearance. The employer must provide:

(i) Adequate clearance so that there will be no contact between the bottom of cathead and the cable attachment at the top of the hoist cage; and

(ii) A path free of obstruction (clear travel) along the full length of the guide ropes.

(g) Sheave substitute. The employer may substitute construction blocks, of the type described in Condition 8(a)(i) above, for the top sheaves. (Note: See also Condition 8(d) above.)

10. Guide Ropes

(a) Number and construction. The employer must:

(i) Securely affix two (2) guide ropes to the cathead or to overhead supports designed for the purpose of accepting the guide ropes; and

(ii) Ensure that the guide ropes:

(A) Consist of steel wire rope not less than one-half (½) inch (1.3 cm) in diameter; and

(B) Be free of damage or defect at all times per 29 CFR 1926.552(c)(17)(iv), adopted by 803 KAR 2:413.

(b) Guide rope fastening and alignment tension. During the hoisting of personnel, the employer must ensure that one end of each guide rope is fastened securely to the overhead support, and that appropriate tension is applied at the foundation end of the rope.

(c) Height. The employer must install the guide ropes along the entire height of hoist travel.

11. Personnel Cage

(a) Construction. The employer must ensure that the frame of the personnel cage is capable of supporting a load that is eight (8) times its rated load capacity. The employer also must ensure that the personnel cage has:

(i) A top and sides that are permanently enclosed (except for the entrance and exit);

(ii) A floor securely fastened in place;

(iii) Walls that consist of fourteen (14) gauge, one-half (½) inch expanded metal mesh, or an equivalent material;

(iv) Walls that cover the full height of the personnel cage between the floor and the overhead covering;

(v) A sloped roof constructed of at least three-sixteenth (3/16) inch steel plate, or material of equivalent strength and impact resistance, that slopes to the outside of the personnel cage;

(vi) Safe handholds (e.g., rope grips—but not rails or hard protrusions when their presence creates an impact hazard) that accommodate each occupant; and

(vii) Attachment points for workers to secure their personal fall-arrest protection systems.

(b) Overhaul weight. The employer must ensure that the personnel cage has an overhaul weight (e.g., a headache ball) to compensate for the weight of the hoist rope between the cathead and footblock. In addition, the employer must:

(i) Ensure that the overhaul weight is capable of preventing line run; and

(ii) Use a means to restrain the movement of the overhaul weight so that the weight does not interfere with safe personnel hoisting.

(c) Gate. The employer must ensure that the personnel cage has a gate that:

(i) Guards the full height of the entrance opening; and

(ii) Has a functioning mechanical latch that prevents accidental opening.

(d) Operating procedures. The employer must post the procedures for operating the personnel cage conspicuously at the bottom landing.

(e) Capacity. The employer must:

(i) Ensure that the rated load capacity of the cage is at least 250 pounds for each occupant hoisted, or actual weight if the person exceeds 250 pounds; and

(ii) Hoist at any one time no more than the number of occupants for which the cage is designed.

(f) Worker notification. The employer must post a sign on each personnel cage notifying workers of the following conditions:

(i) The standard rated load (in pounds), as determined by the initial static drop-test specified by Condition 11(g) (“Static drop-tests”);

(ii) The designated number of occupants for which the cage is designed; and

(iii) Any reduction in rated load capacity (in pounds) if applicable (e.g., due to a change in conditions of the specific job).

(g) Static drop-tests. The employer must:

(i) Conduct static drop tests of each personnel cage that comply with the static drop-test procedures provided in Section 13 (“Inspections and Tests”) of American National Standards Institute (ANSI) standard A10.22-2007 (“Safety Requirements for Rope-Guided and Non-Guided Workers' Hoists”);

(ii) Perform the initial and subsequent static drop-tests at the rated load of the personnel cage; and

(iii) Use a personnel cage for raising or lowering workers only when no damage occurred to the components of the cage as a result of the static drop-tests.

(h) Platform guides. The employer must provide:

(i) Adequate guards, beveled or cone-shaped attachments, or equivalent devices at the underside of the working platform or on the cage to prevent catching when the cage passes through the platform at the top landing; and

(ii) Sufficient clearance or adequate guarding to prevent catching or snagging when the cage passes through intermediate landings.

12. Safety Clamps

(a) Fit to the guide ropes. The employer must:

(i) Fit appropriately designed and constructed safety clamps to the guide ropes; and

(ii) Ensure that the safety clamps do not damage the guide ropes when the cage is in motion.

(b) Attach to the personnel cage. The employer must attach safety clamps to each personnel cage for gripping the guide ropes.

(c) Operation. The employer must ensure that the safety clamps attached to the personnel cage:

(i) Operate on the "broken rope principle";

(ii) Be capable of stopping and holding a personnel cage that is carrying 100 percent of its maximum rated load and traveling at its maximum allowable speed if the hoist rope breaks at the footblock; and

(iii) Use a pre-determined and pre-set clamping force (i.e., the "spring compression force") for each hoist system.

(d) Maintenance. The employer must keep the safety-clamp assemblies clean and functional at all times.

13. Overhead Protection

The employer must provide overhead protection for workers to access the bottom landing of the hoist system.

14. Emergency-Escape Device

(a) Location. For workers using a personnel cage, the employer must provide an emergency-escape device, adequate to allow each worker being hoisted to escape, in at least one (1) of the following locations:

(i) In the personnel cage, provided that the device is long enough to reach the bottom landing from the highest possible escape point; or

(ii) At the bottom landing, provided that a means is available in the personnel cage for an occupant to raise the device to the highest possible escape point.

(b) Operating instructions. The employer must ensure that written instructions for operating the emergency-escape device are attached to the device.

(c) Training. The employer must provide effective and documented training, as specified by Condition 6(a)(iii) above, to each worker who uses a personnel cage for transportation on how to operate the emergency-escape device so as to effect a safe descent in case of an emergency.

15. Personnel Platforms and Boatswain's Chairs

The employer must:

(a) Comply with the applicable requirements specified by paragraphs (b) through (r) of 29 CFR 1926.1431, Hoisting personnel, when electing to replace the personnel cage with a personnel platform in accordance with Condition 2(g)(i);

(b) Comply with the applicable requirements specified by 29 CFR 1926.1431(s) and 1926.452(o)(3) when electing to replace the personnel platform with a boatswain's chair in accordance with Condition 2(g)(ii).

16. Protecting Workers from Fall and Shearing Hazards

The employer must:

(a) Ensure that the hoist areas meet the requirements of 29 CFR 1926.501(b)(3), adopted by 803 KAR 2:412, for hoist areas;

(b) Protect each worker in a hoist-way area from falling six (6) feet or more to lower levels by using guardrail systems that meet the requirements of 29 CFR 1926.502(b), adopted by 803 KAR 2:412, or personal fall-arrest systems that meet the requirements of 29 CFR 1926.502(d), adopted by 803 KAR 2:412;

(c) Ensure that workers using personnel cages secure their fall-arrest systems to attachment points located inside the cage if the door of the personnel cage needs to be opened for emergency escape; and

(d) Provide safe access to and from personnel cages.

(e) Shearing hazards. The employer must:

(i) Provide workers who use personnel platforms or boatswain's chairs with instruction on the shearing hazards posed by the hoist system (e.g., work platforms, scaffolds), and the need to keep their limbs or other body parts clear of these hazards during hoisting operations;

(ii) Provide the instruction on shearing and struck-by hazards:

(A) Before a worker uses a personnel platform or boatswain's chair at the worksite; and

(B) Periodically, and as necessary, thereafter, including whenever a worker demonstrates a lack of knowledge about the hazards or how to avoid the hazards, a modification occurs to an existing shearing or struck-by hazard, or a new shearing or struck-by hazard develops at the worksite; and

(iii) Attach a readily visible warning to each personnel platform and boatswain's chair notifying workers in a language they understand of potential shearing hazards they may encounter during hoisting operations, and that uses the following (or equivalent) wording:

(A) For personnel platforms: “Warning—To avoid serious injury, keep your hands, arms, feet, legs, and other parts of your body inside this platform while it is in motion”; and

(B) For boatswain's chairs: “Warning—To avoid serious injury, do not extend your hands, arms, feet, legs, or other parts your body from the side or to the front of this chair while it is in motion.”

17. Exclusion Zone

The employer must:

(a) Establish a clearly designated exclusion zone around the bottom landing of the hoist system designed to restrict the zone to authorized persons only;

(b) The periphery of the exclusion zone must be:

(i) Designed to keep unauthorized persons out of the zone;

(ii) Well defined by visible boundary demarcation;

(iii) Established with entry and exit points; and

(iv) Posted with readily visible warning signs limiting access.

(c) During personnel hoisting, prohibit any worker from entering the exclusion zone except authorized persons involved in accessing a personnel cage, and then only when the device is at the bottom landing and not in operation (i.e., when the drive components of the hoist machine are disengaged and the braking mechanism is properly applied); and

(d) When hoisting material with the personnel hoist system, prohibit any worker from entering the exclusion zone except to access a material-transport device, and then only when the device is near the bottom landing for the purpose of loading, attaching, landing, or tagging the load.

18. Inspections, Tests, and Accident Prevention

(a) The employer must initiate and maintain a program of frequent and regular inspections of the hoist system and associated work areas as required by 29 CFR 1926.20(b)(2), adopted by 803 KAR 2:402, by:

(i) Ensuring that a competent person conducts daily visual checks and weekly inspections of the hoist system, and an inspection before reuse of the system following periods of idleness exceeding one (1) week;

(ii) Ensuring that the competent person conducts tests and inspections of the hoist system in accordance with 29 CFR 1926.552(c)(15), adopted by 803 KAR 2:413; and

(iii) Ensuring that a competent person conducts weekly inspections of the work areas associated with the use of the hoist system.

(b) If the competent person determines that the equipment constitutes a safety hazard, the employer must remove the equipment from service and not return the equipment to service until the employer corrects the hazardous condition and has the correction approved by a qualified person.

(c) The employer must maintain at the jobsite, for the duration of the job, records of all tests and inspections of the hoist system, as well as associated corrective actions and repairs.

19. Welding

(a) The employer must ensure that only welders qualified in accordance with the requirements of the American Welding Society weld components of the hoist system. Accordingly, these welders must meet the qualification requirements of American Welding Society (AWS) D1.1 Structural Welding Code—Steel, or AWS D1.2 Structural Welding Code—Aluminum, as applicable.

(b) The employer must ensure that these welders:

(i) Are familiar with the weld grades, types, and materials specified in the design of the system; and

(ii) Perform the welding tasks in accordance with 29 CFR Part 1926, Subpart J, Welding and Cutting, as adopted by the applicable KAR.

20. Notification

(a) The employer must exercise due diligence by informing the Commissioner for the Kentucky Labor Cabinet's Department of Workplace Standards as soon as possible after it has knowledge that it will:

(i) Cease to do business;

(ii) Change the location and address of the main office for managing the activities covered by this interim order; or

(iii) Transfer the activities covered by this interim order to a successor company.

(b) This interim order is not transferable to a successor company.

21. Review

The employer shall provide all affected employees and authorized employee representatives the opportunity to review the employer's application and this interim order during normal working hours. Upon request and at no cost, the employer shall provide a copy of the employer's application and this interim order to any affected employee or authorized employee representative.

22. Notice

The employer shall give notice to all affected employees and all authorized employee representatives of their right to request a hearing regarding this interim order. The notice provided to all affected employees and all authorized employee representatives shall inform each that a written request for hearing must be received by Noon, July 25, 2017 at:

Kentucky Labor Cabinet
ATTN Commissioner, Department of Workplace Standards
1047 US HWY 127 South
Suite 4
Frankfort, KY 40601.

By Noon, July 21, 2017, the employer shall certify to the Commissioner at the aforementioned address that all affected employees and all authorized employee representatives were given notice as well as the opportunity to review the documents and obtain a copy upon request.

23. Duration

This interim order expires April 1, 2018.

_____
Ervin Dimeny
Commissioner

_____ / _____ / _____

Footnotes

1. Any reference to "design" or "designed" in these conditions means that a professional engineer registered in the United States must approve the design.

2. See 29 CFR 1926.32(d).

3. See 29 CFR 1926.32(f).

4. See 29 CFR 1926.32(m).

5. This provision adopts the definition of, and specifications for, fleet angle from *Cranes and Derricks,* H. I. Shapiro, et al. (eds.); New York: McGraw-Hill; 3rd ed., 1999, page 592. Accordingly, the fleet angle is "[t]he angle the rope leading onto a [winding] drum makes with the line perpendicular to the drum rotating axis when the lead rope is making a wrap against the flange."

6. When including ten (10) percent overspeed, the maximum hoist speed must not exceed 275 feet per minute.

*ANSI/ASSE definition of this term from Section 3 of A10.22-2007 standard, *Safety Requirements for Rope-Guided and Non-guided Workers' Hoists.* In some cases, slight editorial revisions may be made to the text of the definition for clarity.